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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/876,179	06/13/97	LEE	B P54596

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MM11/0722

EXAMINER

KIM, Y

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 07/22/98

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**08/876,179**

Applicant(s)

**Lee et al.**

Examiner

**Yong Kim**

Group Art Unit

**2833**



☒ Responsive to communication(s) filed on Jun 13, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-11 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-11 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Jun 13, 1997 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Drawings***

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

### ***Claim Rejections - 35 USC § 112***

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 8, "connector pins being automatically connected..." is unclear and indefinite.

What are the connector pins connected to?

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

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4. Claims 1, 4, 6 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Takagi et al. '860.

Takagi et al. '860 discloses a hard disk drive comprising; a head/disk assembly 1, a printed circuit board assembly 3; a first connector 13 having a first plurality of connector pins electrically connecting the head/disk assembly to the printed circuit board assembly; a second connector 14 having a second plurality of connector pins electrically connecting the head/disk assembly to the printed circuit board assembly; and the second plurality of connector pins being automatically connected when the first connector is connected.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 6 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morehouse et al. '049.

Insofar as to claim 1 can be understood due to the indefiniteness noted above, any differences are deemed to be obvious modifications.

Morehouse et al. '049 discloses a hard disk drive comprising; a head/disk assembly 300, a printed circuit board assembly 306; a first connector 331 having a first plurality of connector pins electrically connecting the head/disk assembly to the printed circuit board assembly; a second

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connector 331 having a second plurality of connector pins electrically connecting the head/disk assembly to the printed circuit board assembly; and the second plurality of connector pins being automatically connected when the first connector is connected.

7. Claims 2, 3, 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morehouse et al. '049 in view of Kaufman et al. '884. Morehouse et al. '049 discloses all the limitations of claim 1, however, Morehouse et al. '049 does not teach the second plurality of connector pins being hook shaped or being C-shaped. Kaufman et al. '884 discloses a plurality of connector pins being hook shaped or being C-shaped. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the hard disk drive of Morehouse et al. '049 by providing a plurality of connector pins being hook shaped or being C-shaped as suggested by Kaufman et al. '884. This would facilitate heat application for solder reflow and inspection of solder joints.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morehouse et al. '049 in view of Admitted Prior art Figs.1-3.

Morehouse et al. '049 discloses all the limitations of claim 1, however, Morehouse et al. '049 does not teach the second connector containing 4 connector pins. Admitted Prior art Figs.1-3 discloses the second connector containing 4 connector pins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the hard disk drive of Morehouse et al. '049 by providing the second connector containing 4 connector pins.


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This is well known in the art for transferring signals from a printed circuit board to a head/disk assembly.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Kim whose telephone number is (703) 306-4004.

Yong K. Kim

July 14, 1998



Paula Bradley  
Supervisory Patent Examiner  
Technology Center 2800